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EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/762,050

Applicant(s)

LU, SZE-CHING

Examiner

Raymond S Dean

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>May 14, 2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 9, 16, and 23 recites the limitation "said distance of said point" in lines 6 – 7, 21 – 22, 13 – 14, and 6 - 7 respectively. There is insufficient antecedent basis for this limitation in these claims.

3. Claims 6, 13, 20, and 27 recites the limitation "said point and said distance" in lines 8 – 9, 23 – 24, 17, and 7 – 8 respectively. There is insufficient antecedent basis for this limitation in these claims.

4. Claim 29 – 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that they fail to point out what is included or excluded by the claim language. These claims are omnibus type claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable

Redden et al. (5,490,087) in view of Fomukong et al. (5,918,159).

Regarding Claim 1, Redden teaches a satellite communications system comprising a satellite, in orbit about the earth (Figure 1, Column 5 lines 23 – 25), a plurality of user terminals on the surface of the earth (Figure 1, Column 5 lines 52 – 55), and an earth station, operative to exchange signals with each of said plurality of user terminals via said satellite (Figure 1, Column 5 lines 52 – 55, Column 5 lines 60 – 61, the earth terminal (ET) and system control segment (SCS) can be co-located on the earth or ground thus said ET and SCS can comprise an earth or ground station), said system being characterized by: said earth station being operative to indicate to each of at least some of said plurality of user terminals in which one of a plurality of zones they respectively are located (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone) by, said earth station being operative to detect a congestion condition and to detect from which zone or zones the congestion originates (Column 10 lines 40 – 44, Column 14 lines 1 – 6, Column 16 lines 1 – 22), said earth station being operative to indicate to

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said at least some of said plurality of user terminals the identity of that zone or those zones from which congestion originates (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone); and by each of said at least some of said plurality of user terminals observing congestion control measures if said respective indicated zone of each of said at least some of said plurality of user terminals lies within a zone from which congestion originates (Column 12 lines 62 – 67, Column 13 lines 1 – 12, when the subscriber units receive a broadcast of the prohibited classes said subscriber units will compare the received prohibited classes to said subscriber units' own class identifier to determine if said subscriber units are prohibited, the subscriber units that are prohibited will not access the system).

Redden does not teach each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth.

Fomukong teaches each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth (Figure 1, Column 2 lines 38 – 40, Column 5 lines 4 – 9).

Redden and Fomukong both teach a satellite communication system in which the subscriber units can be mobile thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the position determining method taught by Fomukong in the satellite system of Redden for the purpose of providing the global location of a distressed subscriber in possession of said subscriber unit in an emergency situation as taught by Fomukong.

Regarding Claim 2, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 1. Redden further teaches said earth station allocating and communicating a respective graded service level indicator to said each of at least some of said plurality of user terminals (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the graded service level indicators are the class identifiers), said earth station allocating a minimum service level to allow access to said system when each of said at least some of said plurality user terminals is within said distance of said point (Column 12 lines 62 – 67, Column 13 lines 1 – 12, there will be a particular group or groups of subscriber units that will be prohibited such as those subscriber units with class identifiers lower than 4 thus the minimum service level will be class identifier 4) and each of said at least some of said plurality of user terminals attempting to access said system only if said respective allocated service level indicator exceeds said minimum service level (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the subscriber units that have class identifiers above 4 will be allowed access).

Regarding Claim 3, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 1. Redden further teaches wherein said earth station is

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operative to maintain a table of the position and time of each of said plurality of user terminals making a request for service (Column 14 lines 7 – 23), and is operative to detect a condition of radio congestion in a zone if more than a predetermined number of requests for service arise in a predetermined time within that zone (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests).

Regarding Claim 4, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 2. Redden further teaches wherein said earth station is operative to detect a congestion condition if more than a predetermined proportion of requests for service from said plurality of user terminals are unreadable (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests thus there will be access requests that are unreadable).

Regarding Claim 5, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 4. Redden further teaches wherein said earth station is operative, progressively, to adjust said minimum service level, to maintain said proportion of unreadable requests below said predetermined proportion (Column 13 lines 7 – 12, the prohibited classes may vary thus the minimum service level can be adjusted).

Regarding Claim 6, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 1. Redden further teaches wherein said satellite is operative

to provide an array comprising plurality of adjacent spot beams to give radio coverage to the surface of the earth (Figure 3, Column 8 lines 16 – 27), said earth station being operative independently to maintain said detection of said congestion condition (Column 14 lines 1 – 6) and independently to provide said indication of said point and said distance for each of said plurality of spot beams (Column 16 lines 34 – 42).

Regarding Claim 7, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 6. Redden further teaches wherein said array is in movement with respect to the surface of the earth (Column 5 lines 20 – 22, Column 5 lines 48 – 51, the satellites can be LEOs thus said satellites will only be in view of a section of the earth for a finite number of minutes thus the beams generated by said satellites will be in view for a finite number of minutes), and wherein, as one spot beam replaces another spot beam to cover said area of congestion, said earth station is operative to transfer all data relating to congestion control in said one spot beam for use in operation of said another spot beam (Column 16 lines 34 – 42, as the beams move said beams will service overloaded areas and low loaded areas thus the satellites that provide the beams that service the overloaded areas will receive the prohibited class information from the ground station).

Regarding Claim 8, Redden teaches a method for use in a satellite communications system comprising a satellite, in orbit about the earth (Figure 1, Column 5 lines 23 – 25), a plurality of user terminals on the surface of the earth (Figure 1, Column 5 lines 52 – 55), and an earth station, operative to exchange signals with each of said plurality of user terminals via said satellite (Figure 1, Column 5 lines 52 –

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55, Column 5 lines 60 – 61, the earth terminal (ET) and system control segment (SCS) can be co-located on the earth or ground thus said ET and SCS can comprise an earth or ground station), said system being characterized by: said earth station being operative to indicate to each of at least some of said plurality of user terminals in which one of a plurality of zones they respectively are located (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone) by, said earth station being operative to detect a congestion condition and to detect from which zone or zones the congestion originates (Column 10 lines 40 – 44, Column 14 lines 1 – 6, Column 16 lines 1 – 22), said earth station being operative to indicate to said at least some of said plurality of user terminals the identity of that zone or those zones from which congestion originates (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone); and by each of said at least some of said plurality of user terminals observing congestion control measures if said respective indicated zone of each of said at least some of said plurality of user terminals lies within a zone from which congestion originates (Column 12 lines 62 – 67, Column 13 lines 1 –

12, when the subscriber units receive a broadcast of the prohibited classes said subscriber units will compare the received prohibited classes to said subscriber units' own class identifier to determine if said subscriber units are prohibited, the subscriber units that are prohibited will not access the system).

Redden does not teach each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth.

Fomukong teaches each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth (Figure 1, Column 2 lines 38 – 40, Column 5 lines 4 – 9).

Redden and Fomukong both teach a satellite communication system in which the subscriber units can be mobile thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the position determining method taught by Fomukong in the satellite system of Redden for the purpose of providing the global location of a distressed subscriber in possession of said subscriber unit in an emergency situation as taught by Fomukong.

Regarding Claim 9, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 8. Redden further teaches said earth station allocating and communicating a respective graded service level indicator to said each of at least some of said plurality of user terminals (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the graded service level indicators are the class identifiers), said earth station allocating a

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minimum service level to allow access to said system when each of said at least some of said plurality user terminals is within said distance of said point (Column 12 lines 62 – 67, Column 13 lines 1 – 12, there will be a particular group or groups of subscriber units that will be prohibited such as those subscriber units with class identifiers lower than 4 thus the minimum service level will be class identifier 4) and each of said at least some of said plurality of user terminals attempting to access said system only if said respective allocated service level indicator exceeds said minimum service level (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the subscriber units that have class identifiers above 4 will be allowed access).

Regarding Claim 10, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 8. Redden further teaches wherein said earth station is maintaining a table of the position and time of each of said plurality of user terminals making a request for service (Column 14 lines 7 – 23), and detecting a condition of radio congestion in a zone if more than a predetermined number of requests for service arise in a predetermined time within a predetermined area (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests).

Regarding Claim 11, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 9. Redden further teaches wherein said earth station detecting a congestion condition if more than a predetermined proportion of requests for service from said plurality of user terminals are unreadable (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an

excess number of access requests and not enough resources to handle said requests thus there will be access requests that are unreadable).

Regarding Claim 12, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 11. Redden further teaches wherein said earth station progressively, adjusting said minimum service level to maintain said proportion of unreadable requests below said predetermined proportion (Column 13 lines 7 – 12, the prohibited classes may vary thus the minimum service level can be adjusted).

Regarding Claim 13, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 8. Redden further teaches wherein said satellite is operative to provide an array comprising a plurality of adjacent spot beams to give radio coverage to the surface of the earth (Figure 3, Column 8 lines 16 – 27), said method including the step of said earth station independently to maintaining said detection of said congestion condition (Column 14 lines 1 – 6) and independently providing said indication of said point and said distance for each of said plurality of spot beams (Column 16 lines 34 – 42).

Regarding Claim 14, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 13. Redden further teaches wherein said array is in movement with respect to the surface of the earth (Column 5 lines 20 – 22, Column 5 lines 48 – 51, the satellites can be LEOs thus said satellites will only be in view of a section of the earth for a finite number of minutes thus the beams generated by said satellites will be in view for a finite number of minutes), said method, including the step of, as one spot beam replaces another spot beam to cover said area of congestion, said

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earth station is operative to transfer all data relating to congestion control in said one spot beam for use in operation of said another spot beam (Column 16 lines 34 – 42, as the beams move said beams will service overloaded areas and low loaded areas thus the satellites that provide the beams that service the overloaded areas will receive the prohibited class information from the ground station).

Regarding Claim 15, Redden teaches a user terminal, being one of a plurality of user terminals, for a user in a satellite communications system comprising a satellite, in orbit about the earth (Figure 1, Column 5 lines 23 – 25, Column 5 lines 52 - 55), said plurality of user terminals on the surface of the earth (Figure 1, Column 5 lines 52 – 55), and an earth station, operative to exchange signals with each of said plurality of user terminals via said satellite (Figure 1, Column 5 lines 52 – 55, Column 5 lines 60 – 61, the earth terminal (ET) and system control segment (SCS) can be co-located on the earth or ground thus said ET and SCS can comprise an earth or ground station), said user terminal being characterized by: each of at least some of said plurality of user terminals being operative to receive, from said earth station, indication of in which one of a plurality of zones they respectively are located (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone) by, when said earth station detects a congestion condition and detects from which zone or zones the congestion originates (Column 10 lines 40 – 44,

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Column 14 lines 1 – 6, Column 16 lines 1 – 22), each of said at least some of said plurality of user terminals being operative to receive, from said earth station, indication of the identity of that zone or those zones from which congestion originates (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone); and by each of said at least some of said plurality of user terminals observing congestion control measures if said respective indicated zone of each of said at least some of said plurality of user terminals lies within a zone from which congestion originates (Column 12 lines 62 – 67, Column 13 lines 1 – 12, when the subscriber units receive a broadcast of the prohibited classes said subscriber units will compare the received prohibited classes to said subscriber units' own class identifier to determine if said subscriber units are prohibited, the subscriber units that are prohibited will not access the system).

Redden does not teach each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth.

Fomukong teaches each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth (Figure 1, Column 2 lines 38 – 40, Column 5 lines 4 – 9).

Redden and Fomukong both teach a satellite communication system in which the subscriber units can be mobile thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the position determining method taught by Fomukong in the satellite system of Redden for the purpose of providing the global location of a distressed subscriber in possession of said subscriber unit in an emergency situation as taught by Fomukong.

Regarding Claim 16, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 15. Redden further teaches said earth station allocating and communicating a respective graded service level indicator to said each of at least some of said plurality of user terminals (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the graded service level indicators are the class identifiers), said earth station allocating a minimum service level to allow access to said system when each of said at least some of said plurality user terminals is within said distance of said point (Column 12 lines 62 – 67, Column 13 lines 1 – 12, there will be a particular group or groups of subscriber units that will be prohibited such as those subscriber units with class identifiers lower than 4 thus the minimum service level will be class identifier 4) and each of said at least some of said plurality of user terminals attempting to access said system only if said respective allocated service level indicator exceeds said minimum service level (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the subscriber units that have class identifiers above 4 will be allowed access).

Regarding Claim 17, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 15. Redden further teaches wherein said earth station is

operative to maintain a table of the position and time of each of said plurality of user terminals making a request for service (Column 14 lines 7 – 23), and is operative to detect a condition of radio congestion in a zone if more than a predetermined number of requests for service arise in a predetermined time within a predetermined area (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests).

Regarding Claim 18, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 16. Redden further teaches wherein said earth station is operative to detect a congestion condition if more than a predetermined proportion of requests for service from said plurality of user terminals are unreadable (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests thus there will be access requests that are unreadable).

Regarding Claim 19, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 18. Redden further teaches wherein said earth station is operative, progressively, to adjust said minimum service level, to maintain said proportion of unreadable requests below said predetermined proportion (Column 13 lines 7 – 12, the prohibited classes may vary thus the minimum service level can be adjusted).

Regarding Claim 20, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 15. Redden further teaches wherein said satellite is

operative to provide an array comprising plurality of adjacent spot beams to give radio coverage to the surface of the earth (Figure 3, Column 8 lines 16 – 27), said earth station being operative independently to maintain said detection of said congestion condition (Column 14 lines 1 – 6) and independently to provide said indication of said point and said distance for each of said plurality of spot beams (Column 16 lines 34 – 42).

Regarding Claim 21, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 20. Redden further teaches wherein said array is in movement with respect to the surface of the earth (Column 5 lines 20 – 22, Column 5 lines 48 – 51, the satellites can be LEOs thus said satellites will only be in view of a section of the earth for a finite number of minutes thus the beams generated by said satellites will be in view for a finite number of minutes), and wherein, as one spot beam replaces another spot beam to cover said area of congestion, said earth station is operative to transfer all data relating to congestion control in said one spot beam for use in operation of said another spot beam (Column 16 lines 34 – 42, as the beams move said beams will service overloaded areas and low loaded areas thus the satellites that provide the beams that service the overloaded areas will receive the prohibited class information from the ground station).

Regarding Claim 22, Redden teaches an earth station, for use in a satellite communications system comprising a satellite, in orbit about the earth (Figure 1, Column 5 lines 23 – 25, Column 5 lines 60 – 61, the earth terminal (ET) and system control segment (SCS) can be co-located on the earth or ground thus said ET and SCS

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can comprise an earth or ground station), a plurality of user terminals on the surface of the earth (Figure 1, Column 5 lines 52 – 55), and an earth station, operative to exchange signals with each of said plurality of user terminals via said satellite (Figure 1, Column 5 lines 52 – 55), said earth station being characterized by: said earth station being operative to indicate to each of at least some of said plurality of user terminals in which one of a plurality of zones they respectively are located (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the earth terminal (ET) and system control segment (SCS) can be co-located on the earth or ground thus said ET and SCS can comprise an earth or ground station, the ET will receive the inhibited classes from the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone) by, said earth station being operative to detect a congestion condition and to detect from which zone or zones the congestion originates (Column 10 lines 40 – 44, Column 14 lines 1 – 6, Column 16 lines 1 – 22), said earth station being operative to indicate to said at least some of said plurality of user terminals the identity of that zone or those zones from which congestion originates (Column 10 lines 40 – 44, Column 16 lines 1 – 42, the ET will receive the inhibited classes form the SCS and transmit said inhibited classes to the satellites for broadcast to the subscriber units that are in the congested or overloaded area thus when said subscriber units receive the broadcast of the inhibited classes said subscriber units will know that said subscriber units are in a congested area or zone) for each of said at least some of said plurality of

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user terminals observing congestion control measures if said respective indicated zone of each of said at least some of said plurality of user terminals lies within a zone from which congestion originates (Column 12 lines 62 – 67, Column 13 lines 1 – 12, when the subscriber units receive a broadcast of the prohibited classes said subscriber units will compare the received prohibited classes to said subscriber units' own class identifier to determine if said subscriber units are prohibited, the subscriber units that are prohibited will not access the system).

Redden does not teach each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth.

Fomukong teaches each of said plurality of user terminals and said earth station being co-operative to measure the position of said each of said plurality of user terminals on the surface of the earth (Figure 1, Column 2 lines 38 – 40, Column 5 lines 4 – 9).

Redden and Fomukong both teach a satellite communication system in which the subscriber units can be mobile thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the position determining method taught by Fomukong in the satellite system of Redden for the purpose of providing the global location of a distressed subscriber in possession of said subscriber unit in an emergency situation as taught by Fomukong.

Regarding Claim 23, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 22. Redden further teaches said earth station allocating and

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communicating a respective graded service level indicator to said each of at least some of said plurality of user terminals (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the graded service level indicators are the class identifiers), said earth station allocating a minimum service level to allow access to said system when each of said at least some of said plurality user terminals is within said distance of said point (Column 12 lines 62 – 67, Column 13 lines 1 – 12, there will be a particular group or groups of subscriber units that will be prohibited such as those subscriber units with class identifiers lower than 4 thus the minimum service level will be class identifier 4) and each of said at least some of said plurality of user terminals attempting to access said system only if said respective allocated service level indicator exceeds said minimum service level (Column 12 lines 62 – 67, Column 13 lines 1 – 12, the subscriber units that have class identifiers above 4 will be allowed access).

Regarding Claim 24, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 22. Redden further teaches wherein said earth station is operative to maintain a table of the position and time of each of said plurality of user terminals making a request for service (Column 14 lines 7 – 23), and is operative to detect a condition of radio congestion in a zone if more than a predetermined number of requests for service arise in a predetermined time within a predetermined area (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests).

Regarding Claim 25, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 23. Redden further teaches wherein said earth station is operative to detect a congestion condition if more than a predetermined proportion of requests for service from said plurality of user terminals are unreadable (Column 14 lines 1 – 6, when the demand for services reaches an overload or congestion level there will be an excess number of access requests and not enough resources to handle said requests thus there will be access requests that are unreadable).

Regarding Claim 26, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 25. Redden further teaches wherein said earth station is operative, progressively, to adjust said minimum service level, to maintain said proportion of unreadable requests below said predetermined proportion (Column 13 lines 7 – 12, the prohibited classes may vary thus the minimum service level can be adjusted).

Regarding Claim 27, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 22. Redden further teaches wherein said satellite is operative to provide an array comprising plurality of adjacent spot beams to give radio coverage to the surface of the earth (Figure 3, Column 8 lines 16 – 27), said earth station being operative independently to maintain said detection of said congestion condition (Column 14 lines 1 – 6) and independently to provide said indication of said point and said distance for each of said plurality of spot beams (Column 16 lines 34 – 42).

Regarding Claim 28, Redden in view of Fomukong teaches all of the claimed limitations recited in Claim 27. Redden further teaches wherein said array is in movement with respect to the surface of the earth (Column 5 lines 20 – 22, Column 5 lines 48 – 51, the satellites can be LEOs thus said satellites will only be in view of a section of the earth for a finite number of minutes thus the beams generated by said satellites will be in view for a finite number of minutes), said earth station, as one spot beam replaces another spot beam to cover said area of congestion, being operative to transfer all data relating to congestion control in said one spot beam for use in operation of said another spot beam (Column 16 lines 34 – 42, as the beams move said beams will service overloaded areas and low loaded areas thus the satellites that provide the beams that service the overloaded areas will receive the prohibited class information from the ground station).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S Dean whose telephone number is 703-305-8998. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Raymond S. Dean
September 13, 2004



**NICK CORSARO
PRIMARY EXAMINER**